

## Mediawatch

### She sells stem cells... Richard F. Harris

"Some time next year an embryo will be cloned from a human adult. It will be implanted in the uterus of a young woman selected with some care for her wide pelvis and robust health. A son will be born at the dawn of the third millennium. Neither angels nor news wires are likely to herald the birth. The father — an Asian plutocrat, South American kleptocrat or aging Western rock star — won't be looking for publicity. He will be looking for everlasting life."

So declared a piece in *Forbes* magazine on 11 January. All this is due to a series of breathtaking advances, crowned this past year by the isolation of embryonic stem cells. "The key breakthroughs have already occurred," the opinion piece declared, "all the rest now is detail." This, the writer announced darkly, is the dawn of "bioatomic power."

Indeed, many journalists were breathless about the potential of stem cells. They can't be cloned into new humans, but they can in theory be cultivated and cajoled to form tidy masses of cells of any type, seemingly limited only by the imagination of the people in white coats. Results flowed in fast and furiously. The first splashes came in November, when two teams — both funded by Geron Corporation — announced they had isolated stem cells from embryos and fetuses. "Isolating these cells has been a Holy Grail for developmental biologists for years," declared *USA Today*, dusting off a metaphor as musty as the knights of Camelot.

*US News & World Report* ushered in the news by noting, "these tiny bits of protoplasm are capable of developing into all 210 different kinds of tissue found in the human body, and they offer the hope of one day serving as a source of universal

spare body parts, allowing doctors to treat a wide array of diseases more effectively." The report says cell lines will soon be cooking away to provide tissue culture for testing new drugs.

Curiously, almost nobody noted that the researchers have thus far not been able to culture distinct lines from a single cell, which a biologist would consider a fairly basic test to demonstrate that these cells are, indeed, the wondrous stem cells that will be able to deliver all things to all people. Skepticism, such as there was, was focused elsewhere.

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#### "The dawn of bioatomic power"

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"Hold the Champagne," declared the *New Scientist*. "[M]uch needs to be done to prove that their cultures have any therapeutic value — and that tissue grown in this way would be safe." *New Scientist*, among others, quoted Roger Pedersen of UCSF, noting that nobody has a clue about how to turn these undifferentiated cells into cells of a desired type. "That's like an astronomer saying, 'Give me hydrogen, and I will build you a universe'," he told *US News & World Report*.

In an article written for the online journal, *Slate*, and reprinted in the *Sacramento Bee*, William Saletan argued that journalists, politicians and scientists are all missing the point about this research. While they are arguing about whether it's all legal and proper, he says, they aren't considering whether what's already legal is indeed ethical. "We can cure diseases, immortalize cells and theoretically live forever without the nasty old moral problem of 'harvesting' fetuses." But, Saletan warns: "The immediate threat posed by the unraveling of the old physical and moral distinctions — between human beings and human parts, organisms and nonorganisms, subjects and objects — is that private interests will come to own the stuff of which we're made."

Indeed, Saletan was commenting about a Congressional hearing triggered by yet another splashy stem-cell announcement: researchers at Advanced Cell Technology in Massachusetts asserted that they had created stem cells by injecting human DNA into a cow egg. This seminal piece of work was published, not in a scientific journal, but in the *New York Times*. "The company said yesterday that it had achieved the feat with one cell almost three years ago. Michael D. West, Advanced Cell Technology's chief executive, said that he was announcing the work to test its public acceptability."

The announcement was roundly criticized for lacking the supporting scientific evidence one would expect (the major documentation was a photograph). And the company's motives quickly came into question. *The Worcester Sunday Telegram* (Massachusetts) raised the matter of financial manipulation, noting that Geron's stock has reacted strongly to business announcements. (Advanced Cell Technology has not issued stock.) "West, who coincidentally was a founder of Geron, had one word for the suggestion that Advanced Cell Technology announced its embryonic stem cell research to entice financial investment: 'baloney'."

Many reports did question the viability of such cells — if indeed they were produced — as they would evidently contain cow mitochondria. But, as always, there are those who don't care about all those messy details. The *Arizona Republic* sent a reporter to a New Age conference in Las Vegas, Nevada, where all this talk of stem cells was met with a sense of simple awe. The report noted that one entrepreneur has 35 frozen human heads or bodies, preserved for eternal life. "Science seems to be catching up with the idea that something can be done with them."

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